OWNER'S MANUAL

YAMAHA-33

WilsonJones

YAMAHA MOTOR CO., LTD.
HEAD OFFICE: 2500 Shingai, Iwata-Shi, Shizuoka Ken, 438 JAPAN
BOAT DIVISION: Mukojima, Arai-Cho, Hamana-Gun, Shizuoka Ken, 431-03 JAPAN

YAMAHA MOTOR CO.,LTD.
IWATA, JAPAN

Printed in Japan
May 1982
F80-28199-00

TABLE OF CONTENTS

1. GENERAL DESCRIPTION:

1-1. PRINCIPAL DIMENSIONS AND FIGURES:

DESIGNER	:	YAMAHA DESIGN TEAM	
BUILDER	:	YAMAHA MOTOR CO., LTD.	
RIG	:	MAST HEAD SLOOP	
L.O.A.	:	10.17 m	33 ft 4 in
L.W.L.	:	8.2 m	26 ft 11 in
BEAM	:	3.35 m	11 ft 0 in
DRAFT	:	1.9 m	6 ft 3 in
TOTAL HEIGHT (Above the water line)	:	14.2 m	46 ft 7 in
MAST LENGTH	:	14.55 m	47 ft 9 in
HEAD ROOM	:	1.92 m	6 ft 3 in
DISPLACEMENT	:	4,800 kg	10,584 lb
BALLAST	:	2,000 kg	4,409 lb
TOTAL SAIL AREA (100% fore △ + main sail)	:	45.7 sq m	492 sq ft
BERTH	:	MAIN CABIN	3
		FO'CSLE	2
		QUARTER BERTH	2
WATER CAPACITY	:	170 liter	45 US gal
ENGINE	:	YANMAR 2GM 4 CYCLE 2 CYLINDER DIESEL	
1 HR, RATING OUTPUT	:	15 HP/3,600 rpm	
CONTINUOUS RATING OUTPUT	:	13 HP/3,400 rpm	
REDUCTION RATIO	:	ahead: 2.62	astern: 3.06
PROPELLER ROTATION	:	CLOCKWISE (viewed from astern)	
CRANKSHAFT ROTATION	:	COUNTER-CLOCKWISE (viewed from astern)	
FUEL CAPACITY	:	70 liter	18.5 US gal
SPEED, MAX	:	abt. 6.5 kt	
SPEED, CRUISING	:	abt. 5 kt	
CRUISING RANGE	:	abt. 225 nautical miles	

* SPECIFICATION SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

NOTE:	TALL RIG MAST LENGTH	:	15.30 m	50 ft 2 in
	TOTAL HEIGHT	:	14.95 m	49 ft 0 in
	SAIL AREA	:	49.64 sq m	534 sq ft

1-2. SAIL PLAN: (STANDARD RIG)

1-2-1. Sails:

	AREA sq m (sq ft)	LUFF m (ft)	FOOT m (ft)	LEECH m (ft)	LPG m (ft)	WEIGHT oz	
MAIN	18.53 (199.46)	11.40 (37.40)	3.25 (10.66)	11.85 (38.88)		8	STANDARD
DRIFTER	41.90 (451.01)	13.30 (43.63)	7.24 (23.75)	11.60 (38.06)	6.30 (20.67)		
#1 LIGHT GENOA	41.90 (451.01)	13.30 (43.63)	6.82 (22.38)	12.40 (40.68)	6.30 (20.67)	5	
#1 HEAVY GENOA	41.90 (451.01)	13.30 (43.63)	6.73 (22.08)	12.62 (41.40)	6.30 (20.67)	7	
#2 GENOA	36.77 (395.79)	12.90 (42.32)	6.20 (20.34)	11.90 (39.04)	5.70 (18.70)	7	
#1 JIB	28.86 (310.65)	11.90 (39.04)	5.32 (17.45)	10.85 (35.60)	4.85 (15.91)	8	STANDARD
#2 JIB	19.50 (209.90)	10.00 (32.81)	4.54 (14.89)	8.60 (28.21)	3.90 (12.80)	8	
STORM JIB	8.28 (89.13)	7.70 (25.26)	3.60 (11.81)	5.25 (17.22)	2.15 (7.05)	10	
STAYSAIL	29.80 (320.77)	12.30 (40.35)	4.85 (15.91)	11.10 (36.42)	4.85 (15.91)	8	
SPINNAKER		13.02 (42.72)	7.56 (24.80)	13.02 (42.72)			
STORM SPIN.		12.40 (40.68)	7.56 (24.80)				75% MID GIRTH
100% Fore △	27.2 (293)						

NOTE: 1) Material: DACRON/TERYLENE except NYLON spinnaker and drifter.
2) SPINNAKER FOOT: SMW (I.O.R. measurement)
3) STANDARD SAILS MAY VARY ACCORDING TO REGION.
4) WEIGHT: oz/sq yrd

1-2-2. Battens:

TOP	0.500 m	19 in 11/16
MIDDLE (2)	0.690 m	27 in 1/8
BOTTOM	0.630 m	24 in 13/16

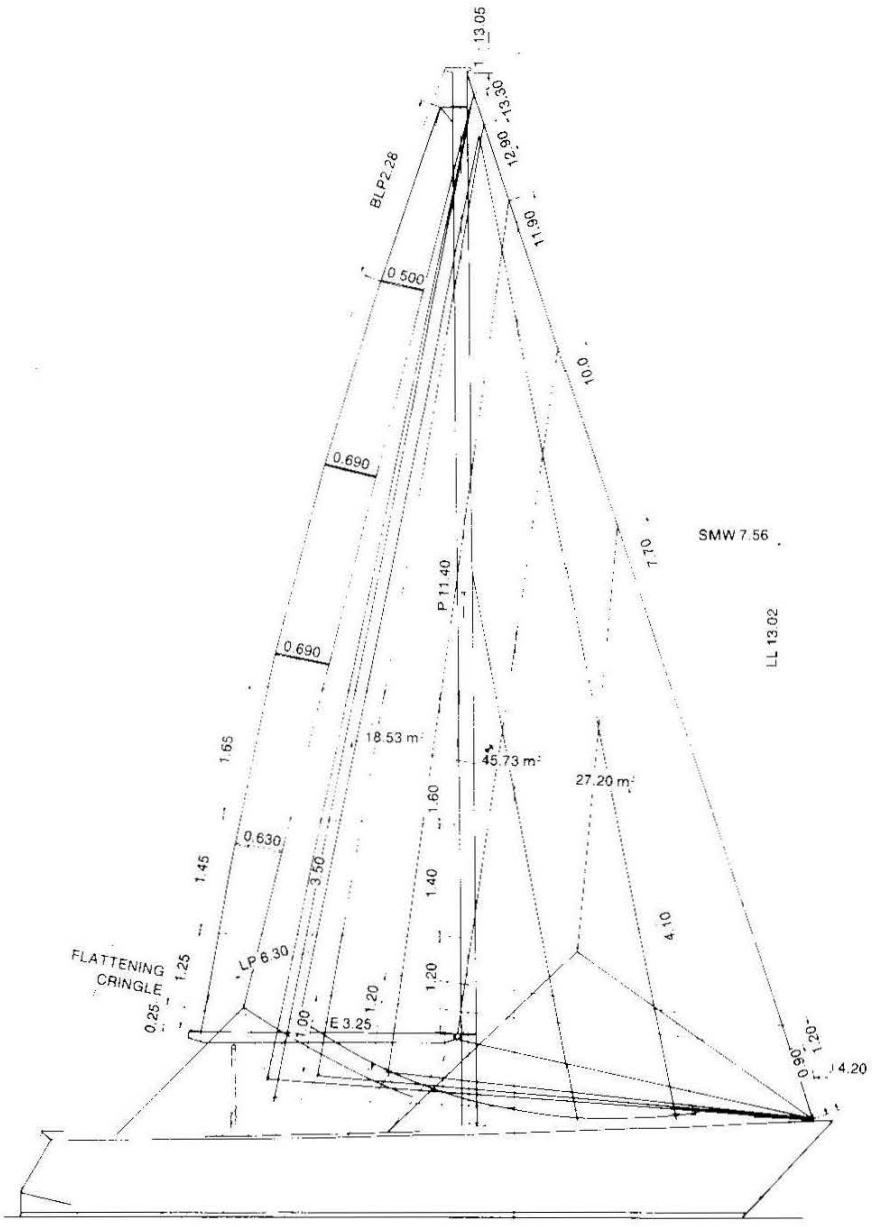


Fig. 1 SAIL PLAN (STANDARD RIG)

1-3. SAIL PLAN: (TALL RIG)

1-3-1. Sails:

	AREA	LUFF	FOOT/ LPG	LEECH	WEIGHT	NOTE
	sq m (sq ft)	m (ft)	m (ft)	m (ft)	oz	
MAIN	20.87 (224.64)	12.10 (39.70)	3.45 (11.32)	12.67 (41.57)	8	STANDARD w/3 POINT REEF
#1 GENOA	44.10 (474.69)	14.00 (45.93)	6.30 (20.67)	13.30 (43.64)	7	OPTION
#2 GENOA	38.81 (417.75)	13.50 (43.47)	5.75 (18.87)	12.65 (41.50)	7	OPTION
#1 JIB	30.24 (325.50)	12.60 (41.34)	4.80 (15.75)	11.40 (37.40)	8	STANDARD
#2 JIB	20.08 (216.14)	11.00 (36.09)	3.65 (11.98)	9.30 (30.51)	8	OPTION
STORM JIB	9.20 (99.03)	8.00 (26.25)	2.30 (7.55)	5.70 (18.70)	10	OPTION
SPINNAKER	85.80 (923.55)	13.61 (44.65)	7.56 (24.80)	13.61 (44.65)	1.2	OPTION

1-3-2. Battens:

TOP	0.500 m	19 in 11/16
MIDDLE (2)	0.710 m	27 in 15/16
BOTTOM	0.650 m	25 in 9/16

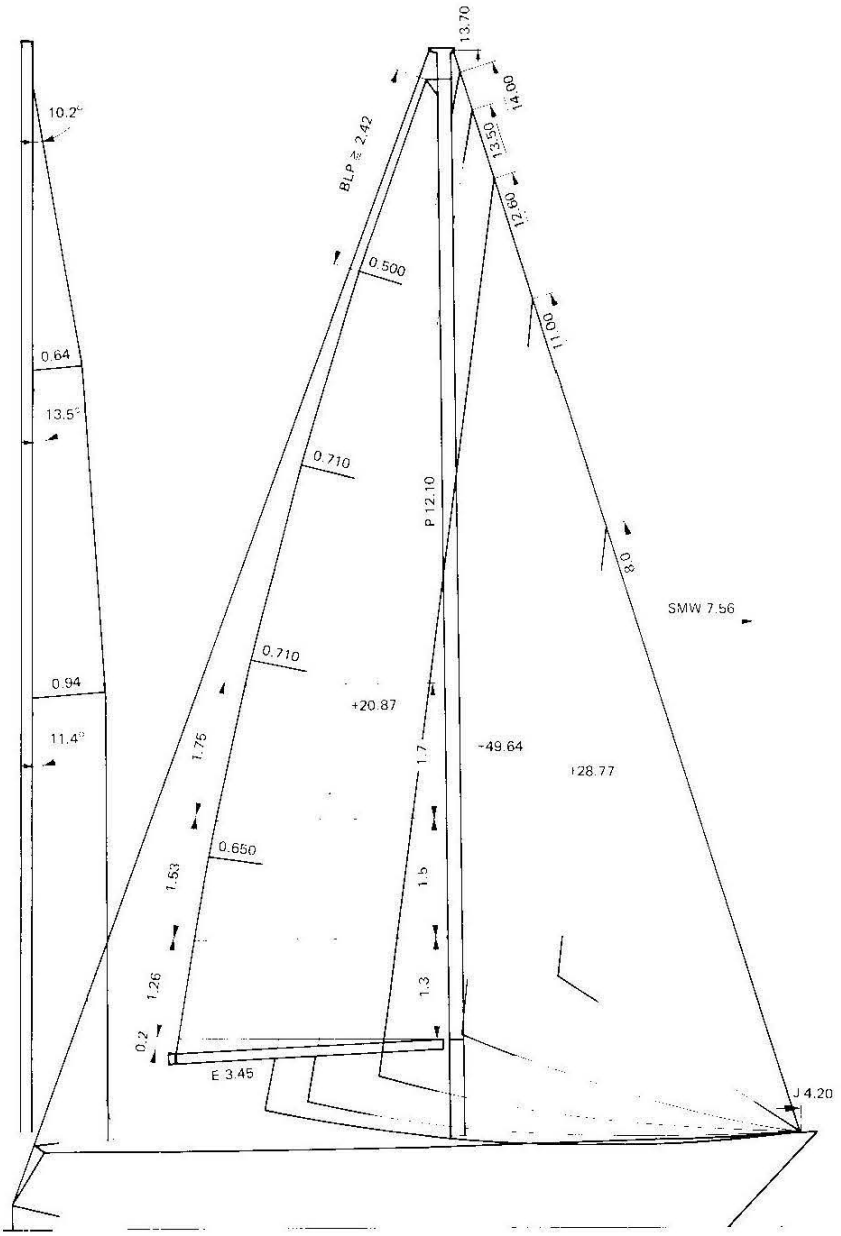


Fig. 2 SAIL PLAN (TALL RIG)

1-4. RIGGING LIST:

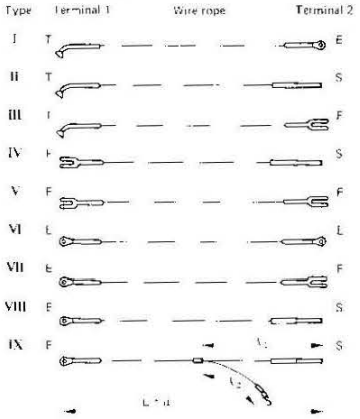
1-4-1. Standing Rigging:

(1) STANDARD RIG.

		LENGTH m	DIA. mm	TYPE	
HEAD STAY	1	13.260	7	1 x 19	VIII
BACKSTAY	1	13.610	7	1 x 19	VIII
MIDSTAY (INNER FORE STAY)	1	6.576	6	1 x 19	II
UPPER SHROUDS	2	12.390	7	1 x 19	II
LOWER SHROUDS	2	6.366	6	1 x 19	II

NOTE: LENGTH & TYPE OF TERMINAL

STANDING RIGGING TYPE



* SPECIFICATION SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

(2) TALL RIG:

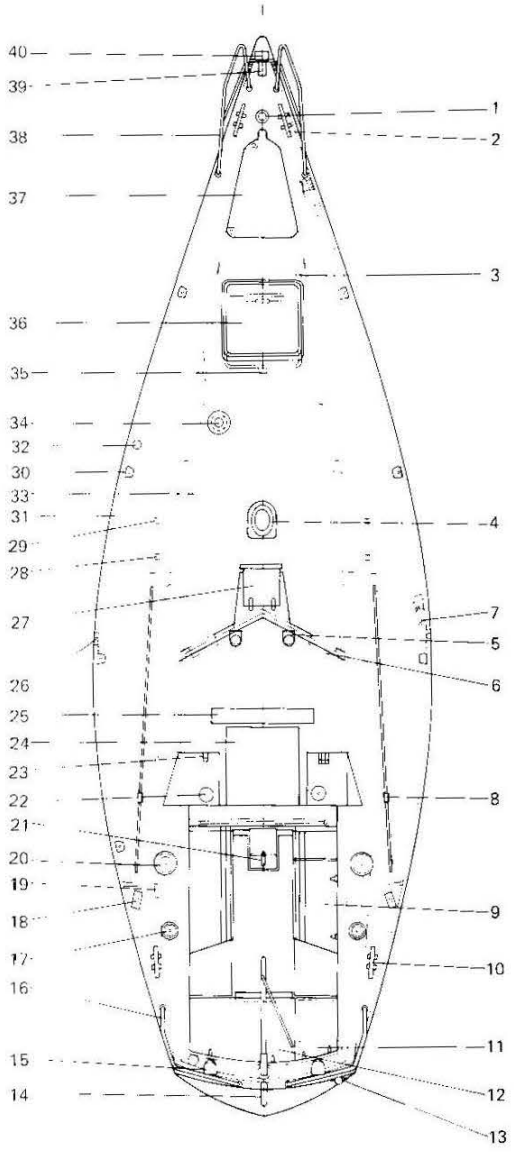
		LENGTH m	DIA. mm	TYPE	
HEAD STAY	1	13.938	7	1 x 19	VIII
BACKSTAY	1	14.370	7	1 x 19	VIII
MIDSTAY (INNER FORE STAY)	1	7.058	6	1 x 19	II
UPPER SHROUD	2	13.091	7	1 x 19	II
INTERMEDIATE SHROUD	2	9.398	6	1 x 19	II
LOWER SHROUD	2	5.300	7	1 x 19	II

1-4-2. **Runnig Rigging:**

		LENGTH m		DIA. mm	COLOR		TYPE
MAIN SHEET	1	17		12	RED	1/4	Braided Poly-propylene
JIB SHEET	2	15		15	YELLOW	1/4	
SPIN. SHEET	2	20		12	BLUE	1/8	
MAIN HALYARD (TAIL)	1	17	(20.5)	12	RED	1/4	
JIB HALYARD (TAIL)	1	17	(18.5)	12	YELLOW	1/4	
SPIN. HALYARD	1	32	(35)	12	BLUE	1/8	
BOOM LIFT (TAIL)	1	14	(16)	8	WHITE		
SPIN. POLE LIFT (TAIL)	1	14		10	BLUE	1/8	
CUNNINGHAM #1	1	2		8	WHITE		
CUNNINGHAM #2	1	3		6	WHITE		
REEF POINTS	10	1.2		6	WHITE		
MAIN SHEET TRAVELLER	1	8		8	RED	1/8	
BOOM VANG LINE	1	8		10	RED	1/4	
SPIN. FORE GUY	1	13	(15)	10	BLUE	1/8	
REEF LINE #1	1	7.5	(8)	10	WHITE		
REEF LINE #2	1	10.5	(11)	10	WHITE		
REEF LINE #3	1	14	(15)	10	WHITE		
MAIN HALYARD	1	13	(14)	5	S.S.		7 x 19
JIB HALYARD	1	13	(14.5)	5	S.S.		7 x 19
BOOM LIFT	1	14.75	(14.0)	2.5	S.S.		7 x 19
SPIN. POLE LIFT	1	9.34		4	S.S.		7 x 19
BOOM VANG	1	1.7		5	S.S.		7 x 19

NOTE: "RED 1/4" rope has 1/4 of strands colored red.
( ): TALL RIG

1-5. DECK PLAN:



1. WASTE PUMP-OUT (OP)
2. CLEAT (4)
3. FAIRLEAD (SPINN. FOREGUY)
4. MAST
5. COWL VENTILATOR (2)
6. FAIRLEAD BLOCK (3x2)
7. FUEL FILLER CAP
8. JIB SHEET CAR W/BLOCK (2)
9. STOWAGE BENEATH
10. CLEAT
11. LG. CYLINDER STOWAGE
12. LAZARETTE
13. STERN LIGHT
14. BACKSTAY FITTING
15. COWL VENTILATOR (2)
16. STERN PULPIT
17. SPINN. SHEET WINCH (2)
18. TURNING BLOCK (2)
19. SHORE POWER RECEPTACLE (OP)
20. JIB SHEET WINCH (2)
21. MANUAL BILGE PUMP
22. HALYARD WINCH (2)
23. SHEET STOPPER (2+3)
24. COMPANION HATCH
25. INSTRUMENT CONSOLE (OP)
26. CHOCK
27. CABIN TOP HATCH
28. CHAIN PLATE (LOWER SHROUD)
29. CHAIN PLATE (UPPER SHROUD)
30. STANCHION
31. TOE RAIL
32. WATER FILLER CAP
33. HAND RAIL
34. TANNOY VENTILATOR
35. MIDSTAY FITTING
36. FORWARD HATCH
37. ANCHOR WELL
38. BOW PULPIT
39. HEAD STAY FITTING
40. COMBINATION LIGHT

Fig. 3 DECK PLAN

* SPECIFICATION MAY VARY IN DIFFERENT COUNTRIES.

1-6. ACCOMMODATIONS:

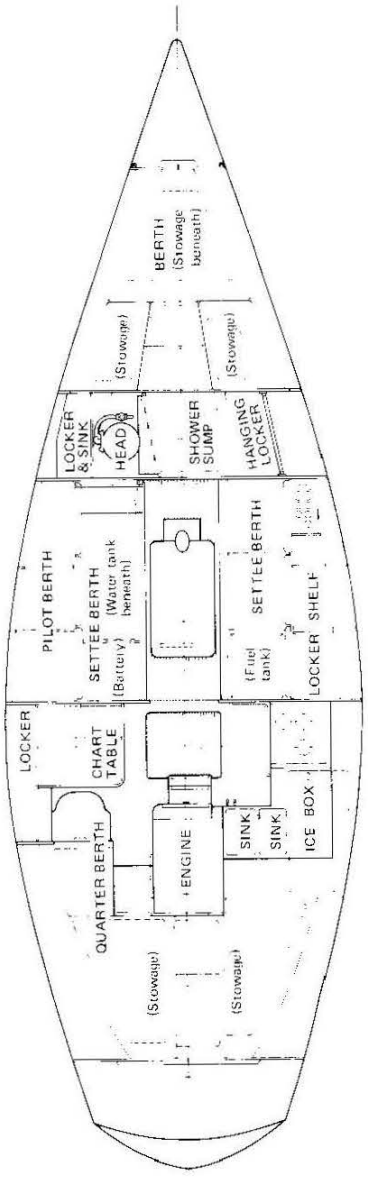


Fig. 4 ACCOMMODATIONS

1-7. THROUGH-HULL FITTINGS:

STARBOARD SIDE:

1. Anchor well drain (No shutoff)
2. Sea water intake for galley sink (1/2" valve)
3. Galley sink drain (1" valve)
4. FWD cockpit drain (1-1/4" valve)
5. AFT cockpit drain (1-1/4" valve)
6. Propane cylinder stowage drain (No shutoff)
7. Engine cooling sea water intake (1/2" valve)

PORT SIDE:

8. Head intake (1/2" valve)
9. Head sink drain (3/4" valve)
10. Head discharge (1-1/4" valve)*

TRANSOM:

11. Engine exhaust (No shutoff)

NOTE: 1) In new models, both cockpit drain valves are located before the companion ladder.
2) The air vent of the holding tank opens to port bow.

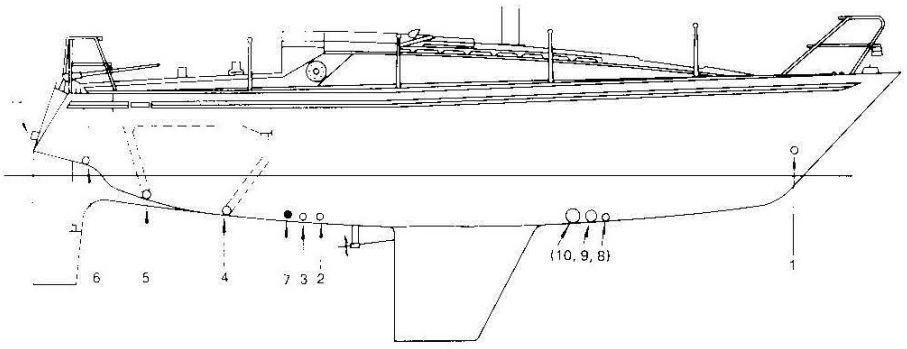
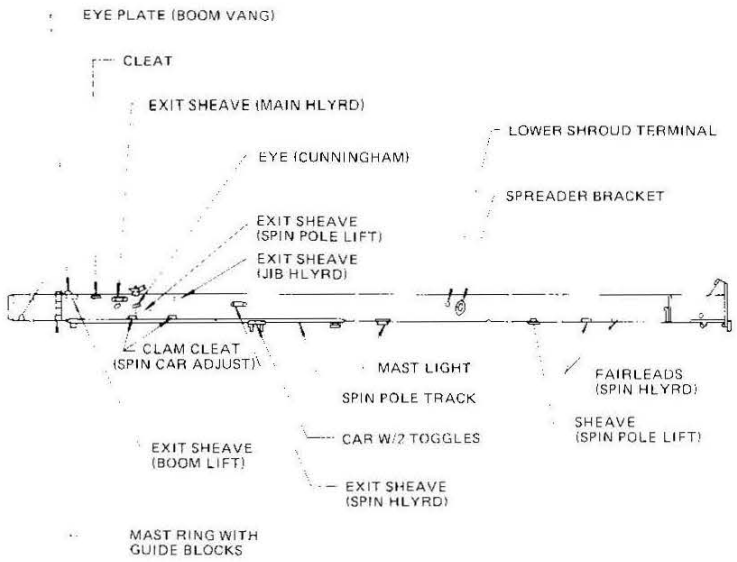


Fig. 5 THROUGH-HULL FITTINGS

* EXCLUDE U.S.A. MODEL.

1-8. MAST FITTINGS:



NOTE: The tall rig has two sets of spreaders and a set of intermediate shrouds.

Fig. 6 MAST FITTINGS

1-10. STANDARD LIST OF ENCLOSED ITEMS:

(1)	MAST ASS'Y	1 set
(2)	BOOM ASS'Y	1 set
(3)	MAIN SAIL (with bag)	1
(4)	JIB SAIL (with bag)	1
(5)	BOW and STERN PULPIT ASS'Y (with bolts)	
(6)	LIFE LINE – STANCHION ASS'Y	
(7)	MISCELLANEOUS:	
A.	LINES:	
	1) MAIN SHEET with BLOCKS and SHACKLES	1 set
	2) MAIN SHEET TRAVELLER ADJUSTMENT LINE	1
	3) JIB SHEET	2
	4) REEF LINE	3
	5) REEF POITS	10
	6) SPINNAKER SHEETS with SNAP SHACKLES	2
	7) SPINNAKER FOREGUY with SNAP SHACKLE	1
	8) CUNNINGHAM HAULER ASS'Y	1 set
	9) BOOM VANG ASS'Y	1 set
B.	FITTINGS AND GEARS:	
	1) BLOCK and SHACKLE (for SPIN, SHEET)	2 sets
	2) BLOCK and SHACKLE (for FOREGUY)	1 set
	3) GENOA CAR ASS'Y (RUNNING BLOCK)	2
	4) WINCH HANDLE	2
	5) COWL VENTILATOR	4
	6) FILLER CAP OPENER	1
	7) BOAT HOOK	1
	8) BILGE PUMP HANDLE	1
	9) BATTENS (4)	1 set
	10) RUBBER BUSHING (for MAST HOLE)	2
	11) RUBBER MAST BOOT (attached to the mast)	1
	12) HOSE CLAMP (STEEL)	2
	13) GALLEY STOVE ACCESSORIES	1 set
C.	ENGINE:	
	1) STARTING KEY	2
	2) STARTING HANDLE	1
	3) TOOLS	1 set
	4) OPERATION MANUAL	1
D.	OWNER'S MANUAL	1

* THE ITEMS MAY VARY IN DIFFERENT COUNTRIES.

2. SPARS AND RIGGING:

2-1. HOW TO JOINT MAST: (TALL RIG)

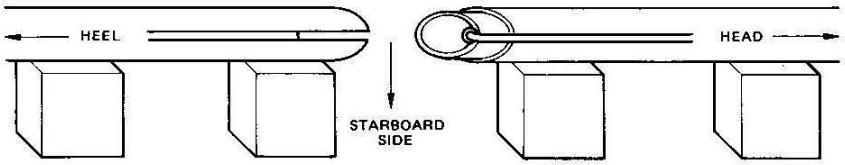
2-1-1. Coloring of Halyard's Guide Ropes:

Colored guide ropes are attached to the mast. They are colored as follows:

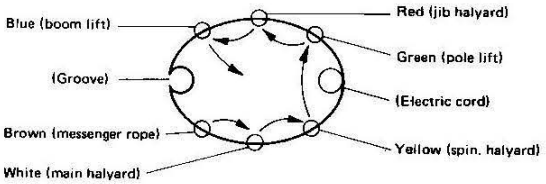
Messenger rope	Brown
Main halyard	White
Jib halyard	Red
Spin. halyard	Yellow
Pole lift	Green
Boom lift	Blue

2-1-2. How to Joint Guide Ropes and Mast:

(1) Prepare four working tables of the same height and set masts pieces inline as shown below. Set the starboard side of masts below.



(2) Joint same color pair of guide ropes in good order as follows:
Brown → White → Yellow → Green → Red → Blue → Electric cord



STARBOARD SIDE
(View from top of mast)

This order is very important for the efficient working. Joint electric cord firmly.

(3) Next, loosen inner sleave screws a little for smooth jointing.

(4) Bring masts closer little by little, and at the same time, pull guide ropes to prevent pinching at the joint. After jointing masts, check all ropes move smoothly.

(5) Fasten mast joint screws.
First, fasten screws above the die mark on the port and starboard side of the mast. Next, fasten screws from the holes on the mast and the sleave that align. At first, there may be a few holes on the mast and the sleave that align. As proceeding fastening, the holes on the mast and the sleave that align will increase.
* During fastening screws, don't move or don't turn up side down the mast.
* Don't fasten screws with two much force.

(6) After all screws fastened, secure all screws firmly. Use anaerobic adhesive.

(7) Set halyards by using guide ropes. Make sure that they move smoothly.

2-2. STEPPING MAST:

(1) Preparation:
Keep unnecessary staff out of your way and check all parts carefully. Make sure the standing rigging is not tangled, halyards are properly running and all turnbuckles are slacked.
Put the rubber boot onto the foot of the mast temporarily.

(2) Setting the Spreaders:
Secure the spreaders to the spreader brackets.
Secure the tips of the spreaders to the upper shrouds.

NOTE. 1) A SPREADER SHOULD BE ADJUSTED SO THAT THE ANGLES BETWEEN THE SHROUD AND SPREADER ABOVE AND BELOW ARE EXACTLY EQUAL. FAILURE TO DO THIS CAN CAUSE THE SPREADER TO SLIP WHICH COULD RESULT IN THE LOSS OF THE MAST.
2) TAPE THE SPREADER TIPS AND BRACKETS WITH INSULATING TAPE FOR SECURITY.

(3) Stepping the Mast:
By using a crane, step the mast on the mast step. Secure all turnbuckles, but leave the standing rigging snug.
Set the clevis pins so that the cotter pins are inboard.

NOTE: WATCH THE ACTION OF TOGGLES THAT THEY DON'T BEND THE TURNBUCKLES.

(4) Secure the Heel of the Mast:
Secure the heel of the mast to the mast step by using the securing bolts and nuts (see Fig. 9).

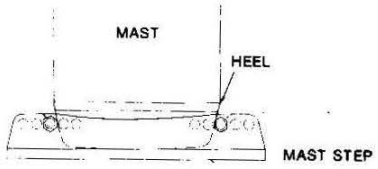


Fig. 9

(5) Around the Mast Hole:

Insert two rubber bushings between the mast and the mast hole. The second bushing may be inserted by pulling the mast to the other side by using a tackle.

Squirt silicone sealant into the groove of the mast and the space between the mast and the hole. Secure the rubber boot by using two hose clamps. (See Fig. 10).

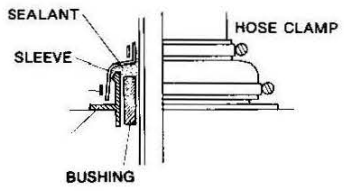


Fig. 10

2-3. STANDING RIGGING ADJUSTMENT:

Our masts are built to withstand any normal usage, but improper tuning or handling can cause problems. Rigging, as well as tuning, becomes all important when setting up the mast becayse of the light weight section we use. A knowledgeable person should oversee the rigging and tuning so as to eliminate the possibility of an eccentric load which might occur with an improperly loaded shroud.

The following article, therefore, is to give you a hint on how to proceed on the adjustment of the standing rigging.

NOTE: SPECIAL ATTENTION SHOULD BE GIVEN TO THE INITIAL STRETCH OF THE UPPER SHROUDS AND A FURTHER GRADUAL STRETCH OF THE WIRE OVER THE FIRST FEW HARD RACES OR HARD WEATHER SAILS.

2-3-1. The Rake of the Mast:

The rake of the mast should be determined according to the helm of the boat under sail. But you may start with our recommended rake – 0.5 degrees.
This is a temporary setting. Do not set up the stays too tight, rather start with slack stays.
You will have to check the rake after you have adjusted the tension on the head stay and backstay.

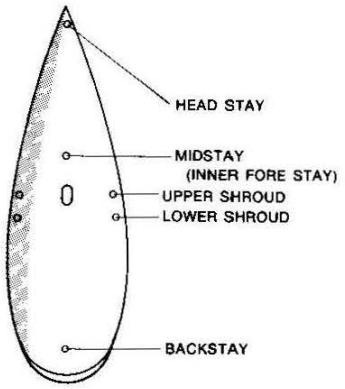


Fig. 11

2-3-2. The Adjustment of the Head Stay and Backstay:

Set up the head stay and backstay taut about evenly, and pull the stays by means of a spring balance at right angles to them at the point of the height of 1 m 500/4 ft 11 in from the pins of their deck fittings.
Adjust the turnbuckles so the head stay has 25 mm/1 in of play at 20 kg/44 lbs load and the backstay has 35 mm/1 in 3/8 of play at the same load.

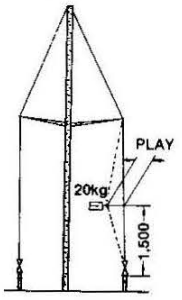


Fig. 12

2-3-3. The Adjustment of the Upper Shrouds:

Adjust the upper shrouds until the masthead is equal distant from each chainplate (see Fig. 13).
Use the main halyard or a steel tape measure to check the athwartship alignment.
Set up the shrouds to have 50 mm/2 in of play (see Fig. 12).

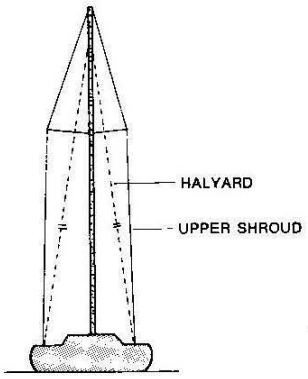


Fig. 13

2-3-4. The Adjustment of the Midstay:

Set up the midstay (inner forestay) until it pulls the mast forward 25 mm/1 in at the spreader brackets.
This figure may vary but should be between 20 mm to 40 mm according to the cut of the main sail.
The play of the midstay is 55 mm/2 in 1/8.

2-3-5. The Adjustment of the Lower Shrouds:

Set up the lower shrouds tight until they start to pull the mast aft.
The play of the lower shrouds will be 30 mm/1 in 1/8.

2-3-6. The Adjustment of the Intermediate Shrouds: (Tall Rig)

Just take the slack off by turning the turnbuckles by hand.

NOTE: 1) SIGHT UP THE MAST WHILE THE BOAT IS UNDER WAY.
IT SHOULD BE STRAIGHT IN ITS GROOVE AND LEEWARD SHROUDS SLACK WHEN ON THE WIND.
2) REMEMBER, DO NOT TIGHTEN THE STANDING RIGGING MORE THAN NECESSARY. OTHERWISE, HULL DAMAGE MAY RESULT.
3) DO NOT ATTEMPT, OR AT LEAST BE VERY CAUTIOUS TO CORRECT MAST CURVATURE UNDER WAY. RIGGING ON THE LEEWARD SIDE IS NORMALLY QUITE SLACK WHEN A BOAT IS HEELED, AND IT IS EASY TO ADJUST IT TOO TIGHT WHICH CAN DESTROY THE PROPER TUNE AND PUT A GREAT STRAIN ON THE BOAT.

4) THE HEAD OF THE MAST SHOULD NOT "HOOK" TO WINDWARD. IF NOT STRAIGHT, IT WOULD BE MORE DESIRABLE TO HAVE THE HEAD "FALL-OFF" SLIGHTLY TO LEEWARD. THIS SHOULD GIVE THE MAST A SMOOTH, EVEN CURVE FROM HEAD TO DECK. SIGHTING ALONG THE BACK OF THE MAST ON EACH TACK, FROM DECK LEVEL, WILL GIVE A COMPARISON AND INDICATE THE NECESSARY ADJUSTMENT.
5) WHEN RACING, THE BACKSTAY MAY BE TIGHTENED UP TO COMPENSATE FOR THE ADDITIONAL FORWARD LOADING APPLIED BY THE GENOA. AT THE CONCLUSION OF THE RACE IT IS BEST TO "SLACK-OFF" THE AMOUNT YOU "TOOK-UP" ON THE BACKSTAY TURNBUKLE. THIS AVOIDS UNNECESSARY STRAINS ON THE HULL AND RIG. UNDER NO CIRCUMSTANCES SHOULD ANY OF THE RIGGING BE SET UP "BAR-TIGHT".
6) TOO MUCH TENSION ON THE BACKSTAY IS PROBABLY THE PRIME REASON FOR MAST AND RIGGING FAILURE. BE EXTREMELY CAREFUL WITH HYDRAULIC TYPE ADJUSTERS.

2-4. HALYARD LEADS:

See Fig. 14

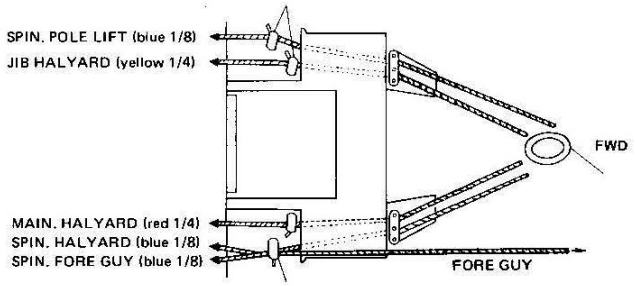


Fig. 14

2-5. MAIN SHEET LEAD:

See Fig. 15

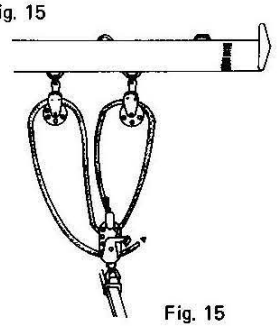


Fig. 15

2-6. MAIN SHEET TRAVELLER ADJUST:

See Fig. 16

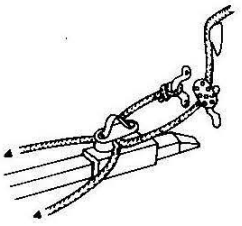


Fig. 16

2-7. JIB SHEET LEAD:

The forward ends of the jib sheets will be secured to the clew of the jib by a bowline.
Then the bitter end will be led outside of the shrouds and rove through the sliding block on the track and turning block and led to the winch (see Fig. 17).

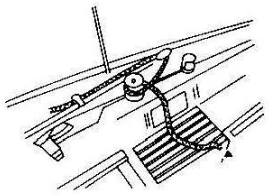


Fig. 17

2-8. CUNNINGHAM:

The gooseneck of the boom does not slide. Therefore, the tension on the luff of the main sail will be adjusted by the cunningham hauler (see Fig. 18).

2-9. BOOM VANG:

The boom vang is sometimes called the kicking strap and illustrated in Fig. 19. This is an important device for shaping and controlling the mainsail. Its fundamental purpose is to pull the boom down, preventing it from riding up when the sheet is eased.

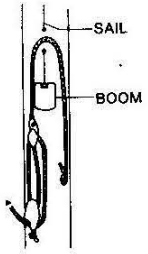


Fig. 18

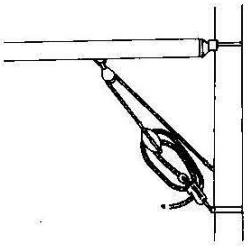


Fig. 19

2-10. REEF LINE AND REEFING:

(1) Rigging the Reef Line:

Three (3) reef lines are rigged onto the boom. The aftermost line is the first reef line (see Fig. 20). Reeve it through the first reef cringle on the leech and secure it to the eye on the top of the boom on the opposite side by a bowline.

The second and third reef lines will be arranged similarly.

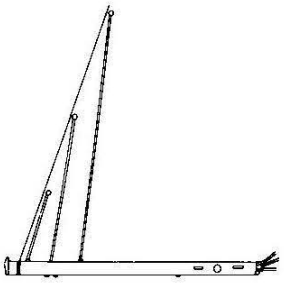


Fig. 20 (STD RIG)

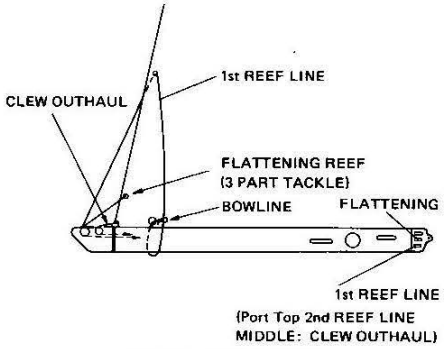


Fig. 21 (TALL RIG)

(2) Reefing:

Most of the sailboats in beating will lose speed and beating angles relatively if the boat heels more than 25 degrees. This is the time to shorten sail by changing the jib to a smaller one and/or by reefing the main accordingly. The following method of reefing is called "Jiffy Reefing" and also "Slab Reefing" derived from the slab line which was used to haul up the foot of square sails.

It is really a jiffy and quick reef permitting the main to be reefed underway without dropping or using roller reef.

1) Stand-by:

Helmsman: slack the main sheet

No. 1 Crew: slack the boom vang and main halyard

No. 1 Crew: haul in the reef line.

2) Go (Reef):

1. Slack boom vang.
2. Slack main sheet.
3. Drop halyard to the mark predetermined and hook the tack reef cringle to the hook on the gooseneck.
4. Haul main halyard and secure.
5. Pull reef line tight and cleat.
6. Sheet in main.
7. Carefully tie reef points or lash down the sail by the buntline.

3. ELECTRIC SYSTEM:

3-1. BATTERY:

The power for the lights aboard and engine starting is supplied by 12-volt storage batteries.
The engine is equipped with a 12V-35A alternator with IC regulator made by Hitachi. This system rapidly charges the battery until it reaches capacity and then shuts itself down and provides only a trickle charge to keep the battery fully charged.
The stowage for two 100 AH batteries is located under the port settee.
Lash down the batteries to the hull.

3-2. BATTERY SWITCH:

The battery switch is located under the port settee. The basic wiring diagram is shown in Fig. 22.
The battery switch will control;

a) which battery you are going to start the engine with and
b) which battery will be charged.

This is done by switching the battery selector switch from "OFF" to position "1" or "2".

NOTE: 1) WHEN YOU START ENGINE, TURN THE SWITCH TO "1" OR "2" NO MATTER HOW YOU START IT BY HAND OR NOT, EXCEPT THE CASE YOU DISENGAGED THE ALTERNATOR FROM THE ENGINE.
2) THE "BOTH" POSITION SHOULD NOT BE USED UNLESS NEITHER BATTERY HAS SUFFICIENT POWER BY ITSELF TO START THE ENGINE.
3) STOP THE ENGINE BEFORE SWITCHING.
FAILURE OF THESE MAY RESULT THE DAMAGE OF THE ENGINE ALTERNATOR.
4) WHEN YOU SHUT DOWN THE ENGINE AND POWER IS NO LONGER NEEDED, TURN THE BATTERY SWITCH OFF.

3-3. ELECTRICAL SWITCH PANEL:

All control switches and fuses are installed in the electrical switch panel on the port side of the navigator's seat, with the exception of the engine key switch and starter button in the cockpit and the extra switch for the electric bilge pump in the head compartment.
The electric bilge pump switches are PUSH ON and automatic stop type and the pump will stop automatically when bilge water is pumped out.
Each cabin light has its own switching system also.

NOTE: The electric bilge pump is OPTIONAL.

3-4. BILGE BLOWER:

The bilge blower is connected to the engine key switch. When you turn the engine key to "ON" position, the bilge blower will start turning.
The fuse for the blower is located behind the engine instrument panel with the fuse for the fuel guage.

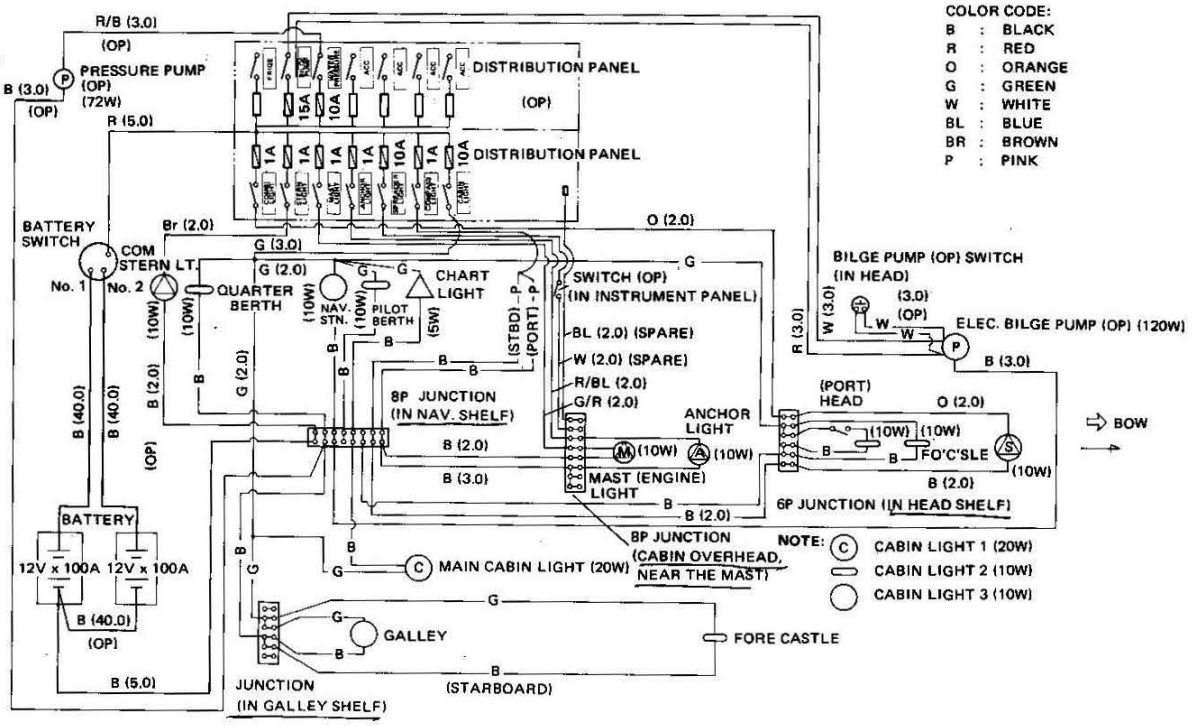


Fig. 22-1 ELECTRIC SYSTEM No. 1 (DC)

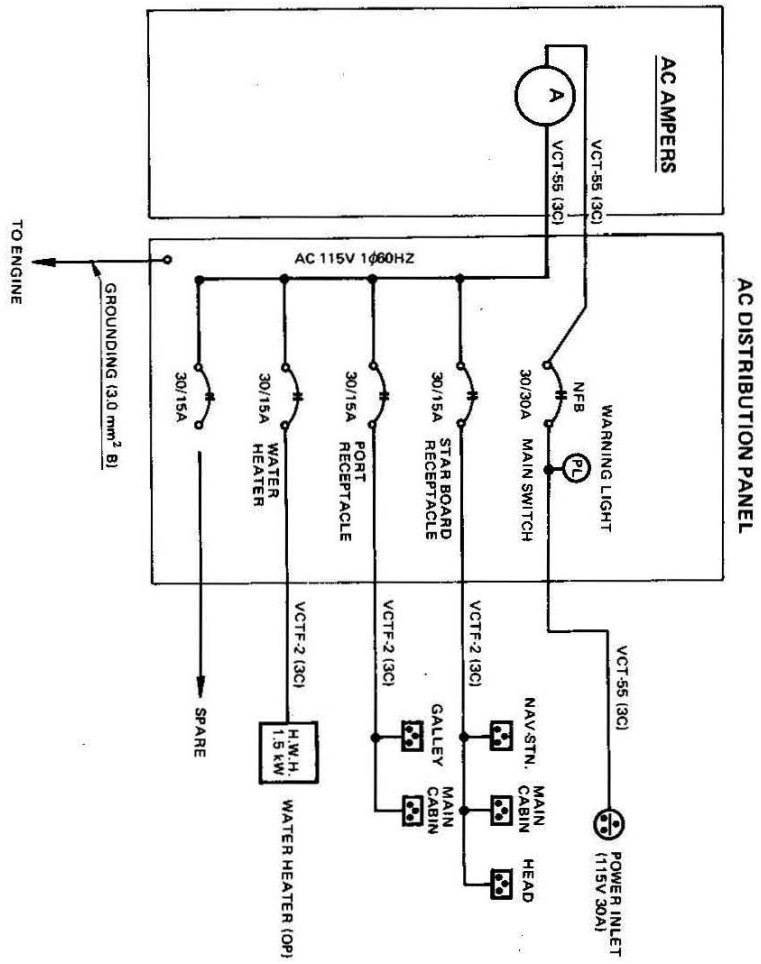


Fig. 22-2 ELECTRIC SYSTEM No. 2 (SHORE POWER) (OPTIONAL)

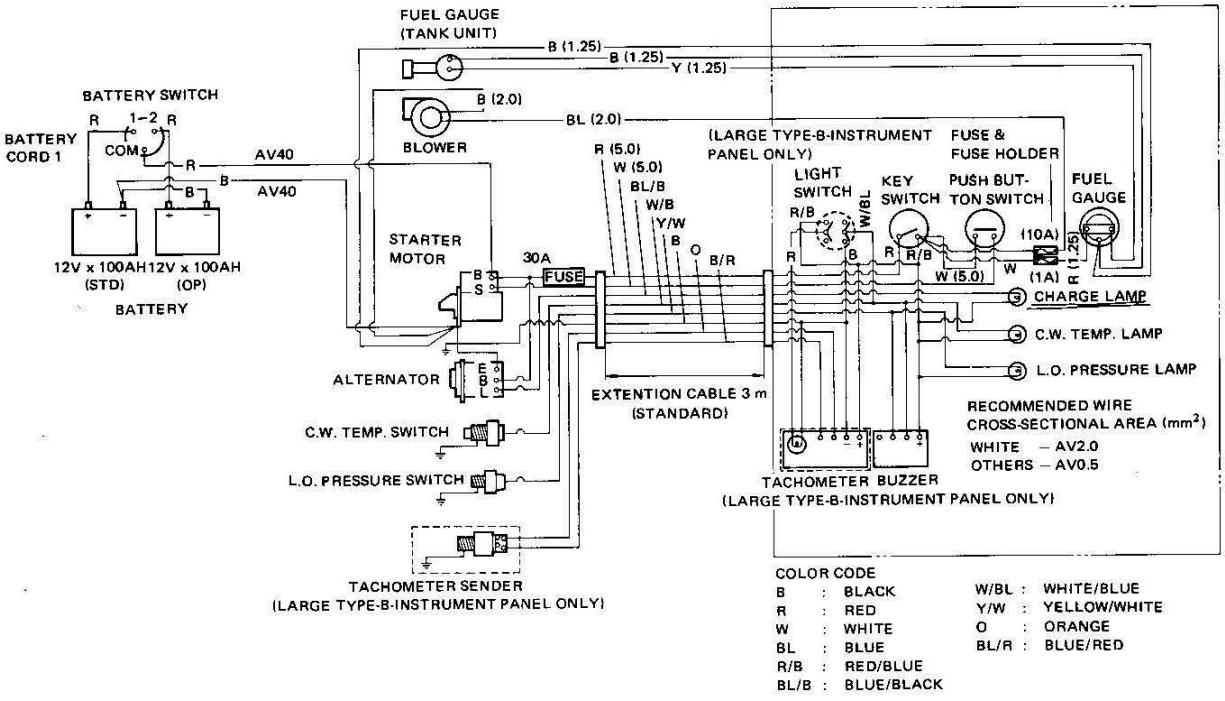


Fig. 22-3 ELECTRIC SYSTEM No. 3 (ENGINE)

4. ENGINE:

The YAMAHA-33 is equipped with a 4-cycle, two cylinder YANMER Model 2GM diesel engine. These engines have 2.62 : 1 reduction gear in the transmission gear box. The engines are controlled from the cockpit by Morse single-lever controls with 33-C Red Jaket Cables.

NOTE: MORSE CONTROLS DIVISION
NORTH AMERICAN ROCKWELL
Hudson, Ohio 44236

These engines are reliable and easy to operate, as are the controls, but there are a number of essential checks that must be made prior to operation in order to ensure continued reliability. Remember, the more you know about the operation of the auxiliary, the less likely it is to give you trouble. THIS SECTION IS SUPPLEMENTARY. THEREFORE, READ "YANMER OPERATION MANUAL" CAREFULLY.
In every case, the fuel supply, cooling system, oil level in engine and oil level in transmission should be checked.

4-1. BEFORE STARTING ENGINE:

4-1-1. Fuel Supply:

(1) Fuel is supplied by one 70 liter (18.5 US gals) tank which is located under the starboard settee berth.
(2) The fuel filler cap is located on the starboard side deck (see Fig. 3). The air vent is connected to the stanchion to starboard.
(3) Open the fuel supply valve on the top of the fuel tank.
(4) Turn on the valve of the fuel filter.

4-1-4. Other Check Points:

(1) Check the oil level in engine, oil level in transmission, the tension on V-belt, each terminal and that the clutch lever is in NEUTRAL.
(2) Turn the battery switch from "OFF" to position "1" or "2".
(3) Open the sea water cooling sea valve which is under the removable part of the cabin sole.
These can be done from below. The rest of the starting operation is conducted from the cockpit.

4-2. STARTING ENGINE:

4-2-1. Electrical Starting:

(1) Pull out the engine warm-up knob under the control lever and put the control lever in the "half speed" position.

NOTE: BEFORE STARTING MOTOR, MAKE SURE THIS CONTROL IS IN NEUTRAL POSITION.
With Control in Neutral Position, knob can be pulled out — this will allow clutch to remain in neutral while control lever can be moved to obtain desired starting throttle.

(2) Turn the switch key to "ON" position. (The warning buzzer will sound.)
(3) Press the starter button to start the engine. As soon as the engine starts, remove your finger from the button.
(4) Move the control lever back to the idle position and let the engine warm up for at least five minutes.

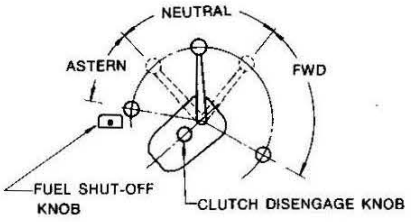


Fig. 23

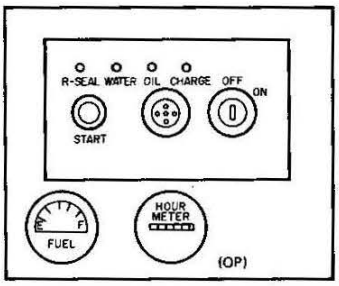


Fig. 24

NOTE: 1) Do not run the starter motor for more than 15 seconds at a time. Should the engine fail to start, wait at least one minute before operating the starting motor again.
2) Do not turn the battery switch or key switch off while the engine is running.
3) Be sure to check that the charging light and the oil pressure and cooling water warning lights go off.
4) Check that the cooling water is coming out of the exhaust on the transom.

4-2-2. Hand Starting:

(1) Turn the battery switch to "1" or "2" position.
(2) Pull out the engine warm up knob and place the control lever in the "HALF" position.
(3) Turn the switch key to "ON" position.
(4) Disengage the decompression lever and turn the starting handle vigorously 5 ~ 6 times.
(5) When sufficient momentum has been obtained, release the decompression lever and turn the starting handle firmly.

4-3. WARMING UP:

(1) Operate the engine at around 750 ~ 800 rpm for at least five minutes to completely warm up the engine.
(2) If the engine is running normally, place the control lever at neutral detent and engage clutch by pushing in the engine warm up knob and then gradually increase speed.

NOTE: WHEN RUNNING THE ENGINE FOR THE FIRST TIME AFTER LAUNCHING, RUN IT FOR 15 ~ 20 MINUTES AT ABOUT 1,000 RPMs.

4-4. POINTS TO CHECK DURING OPERATION:

(1) Fuel Oil: Check the fuel gauge.
Be sure to add fuel before the gauge shows empty.
(2) Lubrication Oil: Check that the oil pressure warning light is OFF.
(3) Check occasionally that the cooling water is coming out of the engine exhaust on the transom and that the cooling water temperature warning lamp is OFF.
(4) Check the color of the exhaust. Excessively black exhaust fumes indicate that the load is too great and should be reduced.
(5) Abnormal Sound: If the engine produces unusual noise during operation, stop the engine immediately and check it carefully.

NOTE: PLEASE READ "YANMER OPERATION MANUAL" CAREFULLY.

4-5. SECURING ENGINE:

(1) Gradually reduce the speed to LOW.
(2) Place the control lever at the neutral detent and idle the engine for about 5 minutes.
(3) Disengage the clutch and race the engine at 3,600 rpm before stopping to expel any gas in the cylinder.
(4) Set the engine to the lowest revolution speed (about 750 ~ 800 rpm), cut the fuel, and stop the engine.

NOTE: 1) NEVER USE THE DECOMPRESSION LEVER TO STOP THE ENGINE.
2) To cut the fuel pull the fuel shut-off knob lightly and hold it until the engine stops completely. It will take several seconds to stop because of its momentums. And also the sound of engine is very quiet there is a tendency to pull the fuel shut-off knob too strongly to break.

(5) Turn Off:
1) Key switch
2) Battery switch
3) Cooling water sea valve
4) Fuel filter cock
(6) While the engine is still warm wipe off any dirt and grime on the engine.

NOTE: When starting and stopping the engine with the key switch "ON", the warning buzzer will sound. This does not indicate engine trouble.

PRACTICAL NOTE:

READ "YANMER OPERATION MANUAL" CAREFULLY.

(1) Breaking In:

The new engine must be carefully broken in during the first 50 hours. Operate below 2,500 rpms.

After the breaking-in period, retighten any important nuts and bolts that are loose.

Change the lubrication oil and the oil filter element or at least clean it.

(2) Heeling Angles Under Sail and Power:

KEEP THE HEELING ANGLE OF THE BOAT LESS THAN 20 DEGREES, OTHERWISE OVERHEATING OR SERIOUS DAMAGE OF THE ENGINE MAY RESULT.

(3) When the battery has not sufficient power by itself to start the engine, it may be started by using the decompression lever.

(4) Bleeding (Air Venting) the Fuel System:

In the event of air entering the fuel system, it will be necessary to bleed the whole fuel system before starting can be effected. Air in the fuel system can be either due to running out of fuel or leakage on the suction side of the fuel supply line.

1) Pull out the knob for engine warm-up and place the control lever in the "half speed" position.
2) Open the fuel supply valve.
3) Loosen the air bleed bolt on the top of the second fuel filter by one and a half turns.
4) Move the priming lever of the fuel feed pump up and down. The fuel feed pump is located on starboard side of the engine.
   When bubbles stop coming out with the fuel, secure the bolt.
5) Loosen the high pressure pipe from the fuel injection pump. Turn the engine with the starting motor, and at the same time tighten the cap nut of the high pressure pipe if fuel comes out.
6) Put the decompression lever in the "No Compression" position and turn the starting handle and make sure that the injection sound of the fuel is a strong high pitched "hiss".

(5) Cleaning the Fuel Filter:

Clean the fuel filter periodically. Replace the dirty element. Do not forget to bleed the filter after cleaning.

(6) Cleaning the Bilge of the Fuel Tank:

Clean the bilge of the fuel tank every three months.

(7) Water Trap:

When the float reaches the red line, drain out the water through the drain plug.

(8) Propeller Shaft Packing Gland:

When the engine is running and in gear, there should be a few drops of water coming out of the gland or else the packing locknuts are too tight and will burn up.

A drop of sea water every 10 ~ 20 seconds is standard, so adjust the locknuts.

At moorage, you may tighten the locknuts to stop the leakage. BUT DO NOT FORGET TO ADJUST THE LOCKNUTS BEFORE YOU START THE ENGINE.

Replace the packing at least once a year.

Be sure you get SQUARE CUT WAX IMPREGNATED FLAX PACKING, of 6.4 mm and that it is NOT WOUND AROUND THE SHAFT but cut to form three single rings which are "stacked" on the shaft so that the cuts are staggered.

(9) Periodical Replacement:

Every 1 year	Gland packing
Every 2 years	Fuel filter hose
	Fuel supply line
	Fuel return line
	Exhaust rubber hose
	Stern tube rubber hose
Every 3 years	Fuel tank

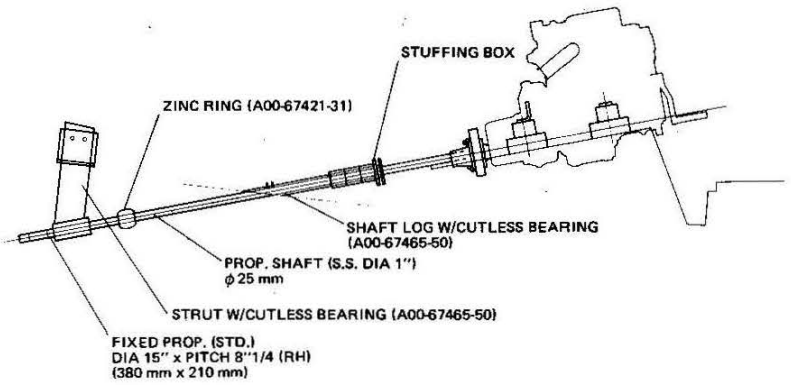
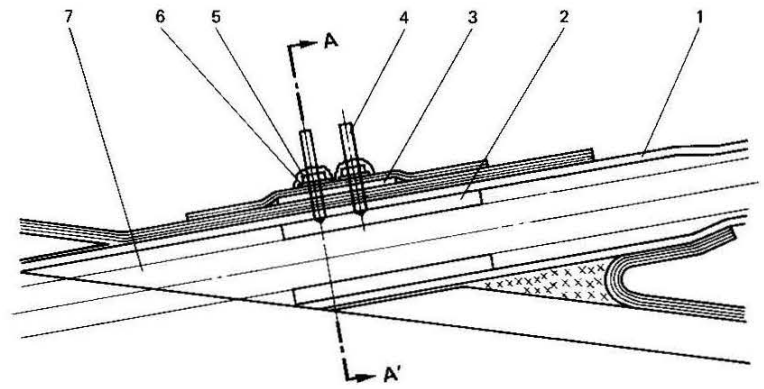
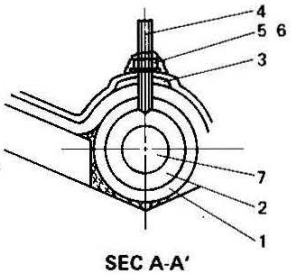


Fig. 25 SHAFTING





SEC A-A'

NO.	COMPONENTS	PART NO.	QUAN.
1	Shaft log		
2	Cutless bearing	A00-67465-50	1
3	Bronze plate	F80-67468-07	1
4	Set screw	90113-06911	2
5	Nut	98880-06100	2
6	Washer	92990-06200	2
7	Propeller shaft	F80-67411-08	1

Fig. 26 SHAFT LOG (DETAIL)

5. PLUMBING SYSTEM:

5-1. PLUMBING SYSTEM DIAGRAM:

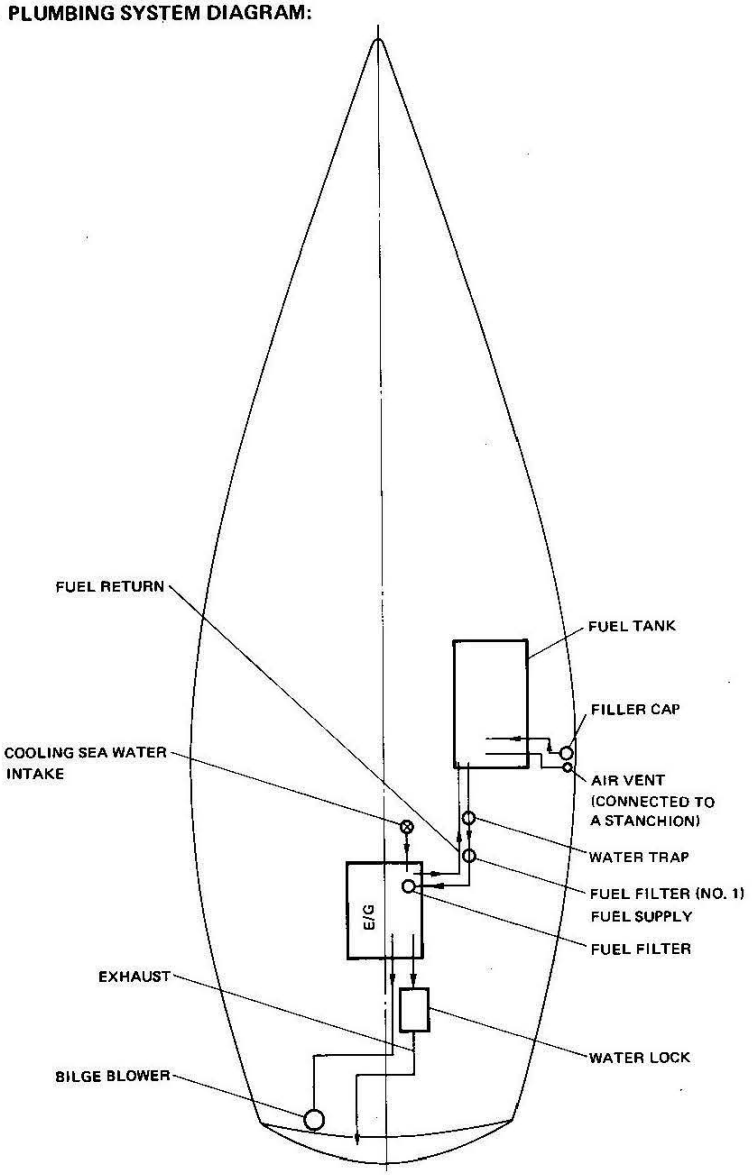


Fig. 27 FUEL AND EXHAUST SYSTEM

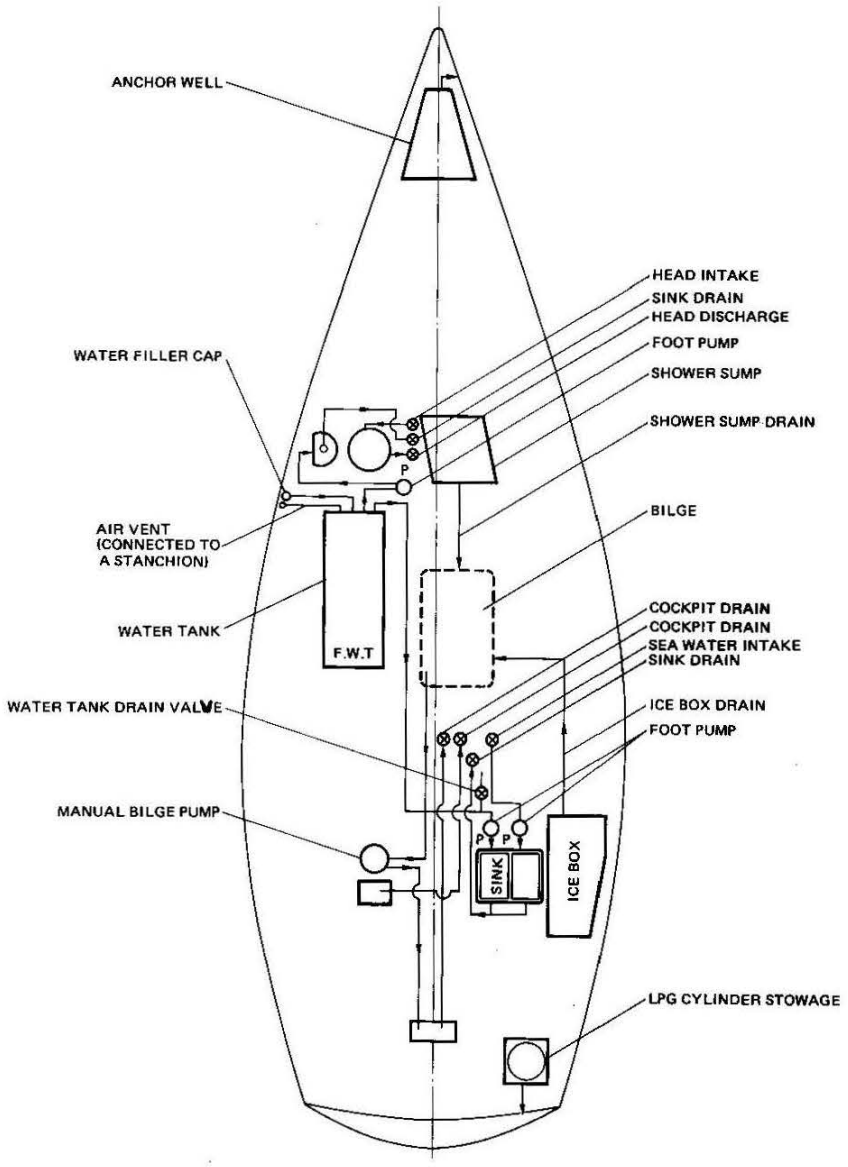


Fig. 28 PLUMBING SYSTEM DIAGRAM (STANDARD):

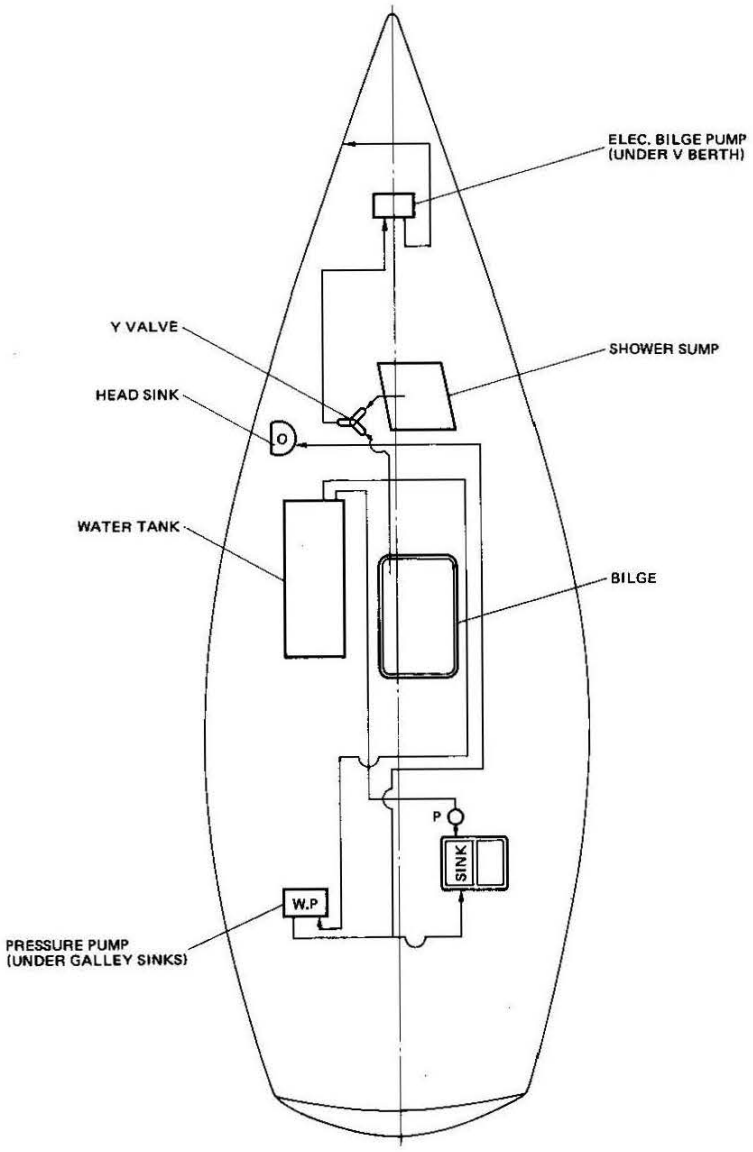


Fig. 29 PLUMBING SYSTEM (OPTIONAL):

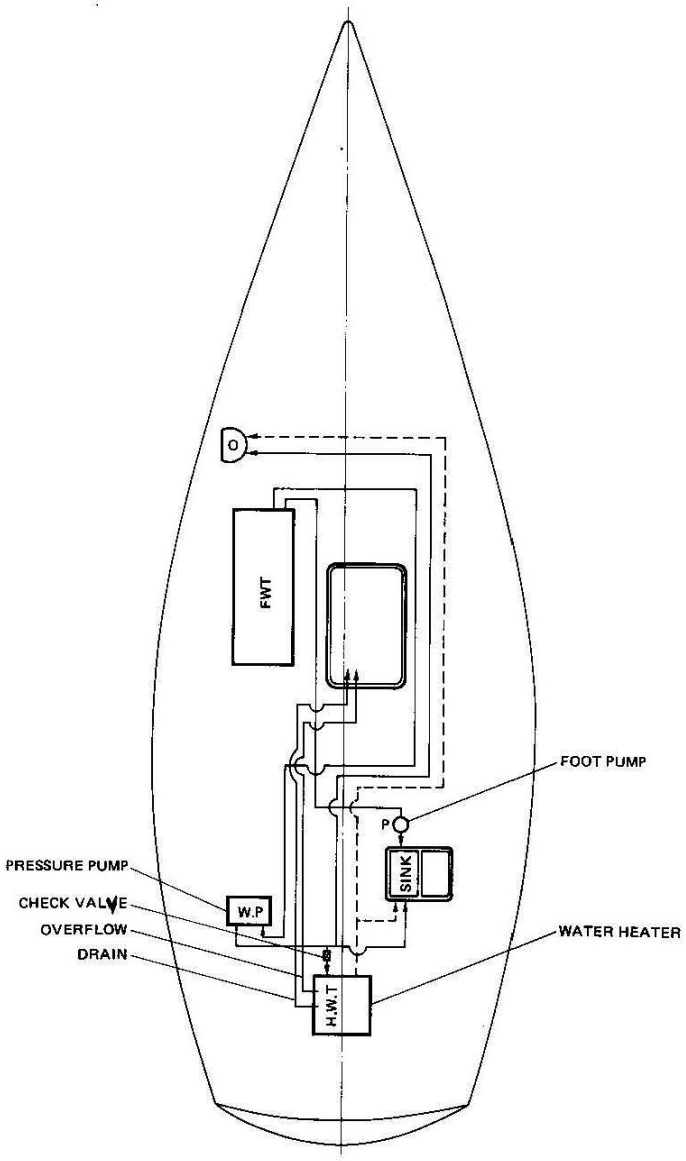


Fig. 30 HOT WATER SYSTEM (OPTIONAL):

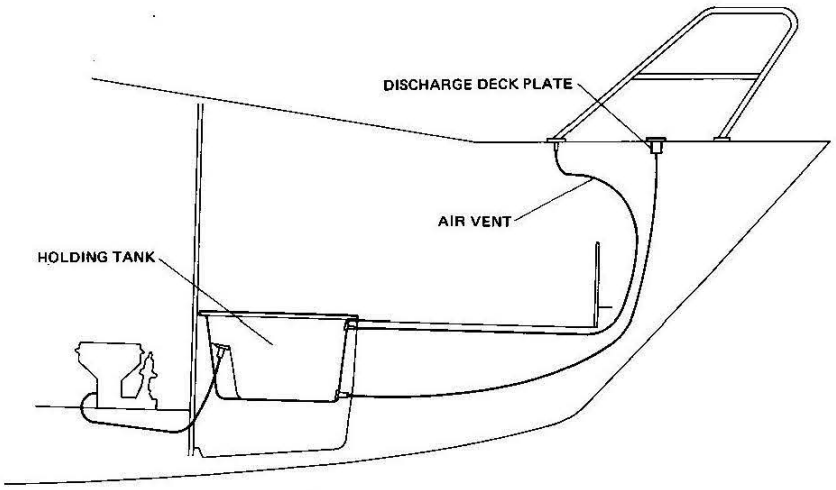


Fig. 31 HOLDING TANK:

5-2. FRESH WATER TANK:

A 170 liter (45 US gal) fresh water tank is located under the port settee.
The filler cap is on the port side deck. The air vent is connected to a stanchion adjacent to the filler cap.
The tank can be drained by opening the water tank drain valve (see Fig. 28).

NOTE: Before filling the water tank, close the drain valve.

5-3. GALLEY:

5-3-1. Galley Sink and Water Supply:

The sink drain shut-off valve and the sea water intake valve are under the cabin sole forward of the companion ladder (see Fig. 28).
When you use the foot pump, please use it gently.

5-3-2. Ice Box:

The total capacity of the ice box is 170 liters (45 US gals).
Please note it drains into the bilge directly.

5-4. HEAD:

5-4-1. Head: (The head is not installed on the U.S.A. Model)

"HEAD-MATE" Seaclos WILCOX-CRITTENDEN, a Gulf + Wester precision Engineering Company, Middletown, Connecticut 06457, U.S.A. are standard.

(1) Open both intake and discharge valves.

(2) And read the "TOILET OPERATING INSTRUCTIONS" mounted on the bulkhead. For your convenience we will repeat these instructions here:

TOILET OPERATING INSTRUCTIONS

BEFORE USING: Raise lever and pump slowly to partly fill and wet inside of bowl.

AFTER USING: (1) Raise lever, pump until bowl is throughly cleaned and continue with several more full strokes to flush discharge lines.

(2) Depress lever and pump slowly until bowl is empty.

IMPORTANT: When not in use, lever must be left in depressed position to prevent flooding.

DO NOT PUT PAPER TOWELS, MATCHES, RAGS, ETC. INTO BOWL. THEY WILL PLUG THE VALVES.

NOTE: When running in rough seas, or leaving the boat overnight, it is advisable to pump the bowl dry to prevent splashing. When the boat is unattended, it is advisable to close both sea cocks.

5-4-2. Head Sink and Shower:

The faucet of the sink is a shower head and is operated by foot pump.
It is prudent to close the sink drain valve when running in rough seas.
On a standard boat the shower will drain into the bilge directly. It is recommended to rinse the bilge with detergent after shower.

5-5. MANUAL BILGE PUMP:

One manual bilge pump is mounted in the cockpit.
The suction end is in the bilge and it drains through the aft cockpit drain.

5-6. COCKPIT DRAIN:

The cockpit drain shut-off valves are accessible through the opening bottom board of the stowage bin in the quarter berth.
The valves in a newer model are under the cabin sole before the companion ladder.

5-7. ANCHOR WELL:

On the foredeck there is a self-draining anchor well.

5-8. ELECTRIC BILGE PUMP: (Optional)

An optional electric bilge pump will be installed in the forecastle.
There are two switches, one in the head and another on the distribution panel. They are PUSH ON and automatic OFF type. By the "Y" valve which is under the opening part of the head compartment sole you may select which part is to be pumped out, bilge or shower sump. The bilge drains through the port bow topside drain hole.
Periodically clean the bilge strainer.

6. MAINTENANCE TIPS:

Get in the habit of checking fittings for cracks, wear or fatigue. Particularly, check locknuts which often seem to come loose.

6-1. FIBERGLASS SURFACES:

Maintenance of today's fiberglass sailboats is extremely simple when compared with the upkeep necessary to keep boats of other materials in "Shipshape and Bristol Fashion".
The glossy outer surface of your laminated fiberglass boat is know as "gelcoat", a polyester resin into which coloring pigments have been incorporated.
It should be hosed with fresh water after every outing. At least once a year the smooth gelcoat surface should be waxed and polished with a good automotibe wax or a boat wax. A power buffer will make work on the large areas like the hull easier, but care must be taken not to cut through the gelcoat surface, particularly at corners and edges. For power cleaning use a LIGHT abrasive cleaner, while a heavier rubbing compound may be used when polishing by hand.
After buffing, wax and polish all surfaces except the non-skid areas.

NOTE: GELCOAT:

A can of gelcoat is enclosed with your boat for touch up. It is of ISO type and does not include catalyst, promoter or paraffin wax.

At 25 degrees Celsius temperature:

1) Add the promoter – 0.5% by weight and mix throughly,
2) Make a 2% paraffin wax solution in stylene and add this solution 4% by weight to the gelcoat and mix throughly and
3) Add the catalyst – 1% by weight and mix throughly.

YAMAYA uses:

Promoter: Cobalt nafthenate, 6% solution in toluen.

Catalyst: Methyl isobuthyl keton peroxide, 75% solution in
Di-methyl phthalate or
Methyl ethyl keton peroxide, 55% solution in
Di-methyl phthalate.

SAFETY PRECAUTIONS:

1. ALLOW AMPLE VENTILATION.
2. KEEP AWAY FROM OPEN FLAMES AND SPARKS.
3. NEVER MIX JUST PROMOTER AND CATALYST TOGETHER – A VIOLENT EXPROSION WILL RESULT.

6-2. STANDING RIGGING AND HALYARDS:

Hose down with fresh water to remove salt and dirt. Periodically take a trip aloft to check the entire rig. Wire rigging must be examined carefully for broken strands and signs of frayed sections. If you find any, replace it. Especially check the places whrer you applied electric tape. Take the tape away, clean the wire, and then retape.
Particularly close scrutiny should be given to those sections which rest on sheaves.
When not under sail, KEEP THE HALYARDS TIED AWAY FROM THE MAST.

6-3. SPARS:

Take along a rag and a bucket of fresh water to clean the rigging and mast on your way up. After cleaning the mast and boom with fresh water, lubricate periodically with light grease or spray with a protective film such as WD-40. Secure the boom snugly when your boat is not in use.

6-4. SAILS:

Sails should be folded for storage whenever possible. Periodically hose down sails with fresh water to remove salt. Pay attention to your sails and if any tears, rips or worn spots appear on the corners, or headboard, or stitching begins to chafe, make a note of the damage and its location. And at your convenience, take the sail to a sailmaker for a professional repair job.

6-5. TEAK:

The teak is varnished with Urethane Clear varnich. If it looses its gloss, apply several coats of urethane varnish after sanding with # 120 paper.
A good rub with a chamois after hosing down will keep the gloss and also lengthen vernish life.

6-6. HARDWARE:

All blocks, sheaves, turnbuckles, and winchs should be lubricated periodically with a light grease or sprayed with a protective film such as "WD-40".

6-7. BATTERY:

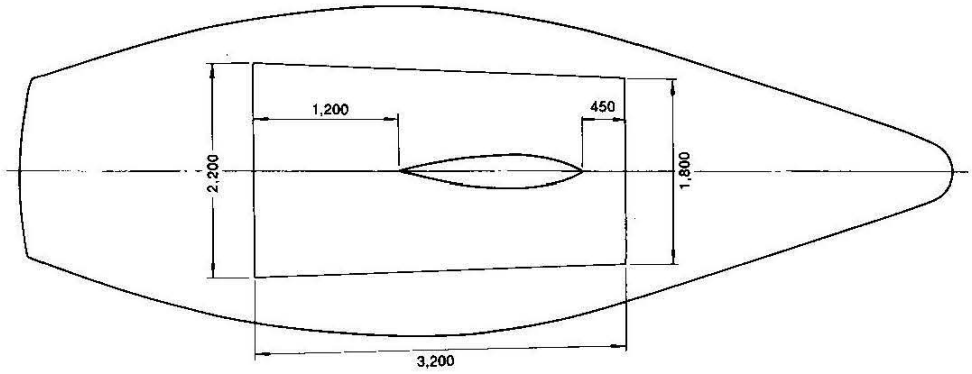
Regular care such as for your car battery should be taken. Lash it down to the hull with enclosed lashing strap. Periodically clean the terminals and apply anti-rust grease.

6-8. ZINC-RING:

To protect under-water metal from galvanic action, one zinc-ring is attached. Usually it stands for 6 months, but periodically check it and if the volume is reduced to a half of the original size, please replace it.
It is important to keep the surface of the zinc-ring clean. Periodically scrape the surface to remove marine growth.

6-9. CRADLE:

The hull support of the cradle should have at least 150 mm/6 inches of width and apply felt or rubber sheet on it.



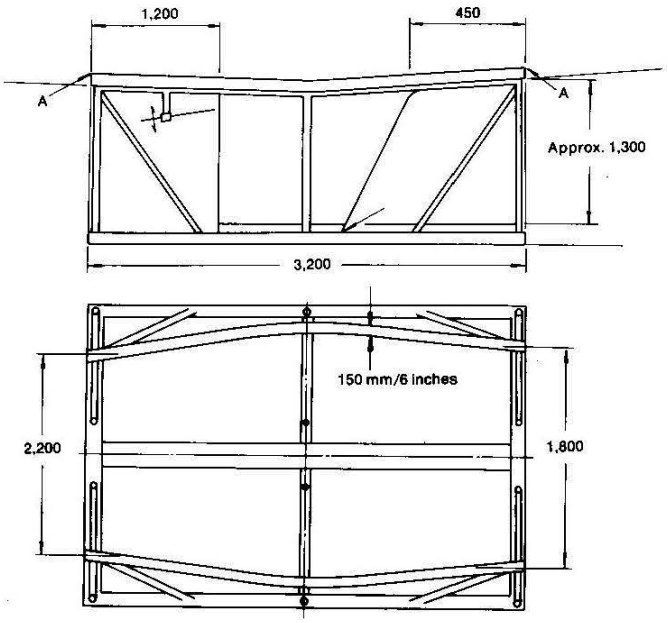


Fig. 32

7. PEDESTAL STEERING SYSTEM: (Optional)

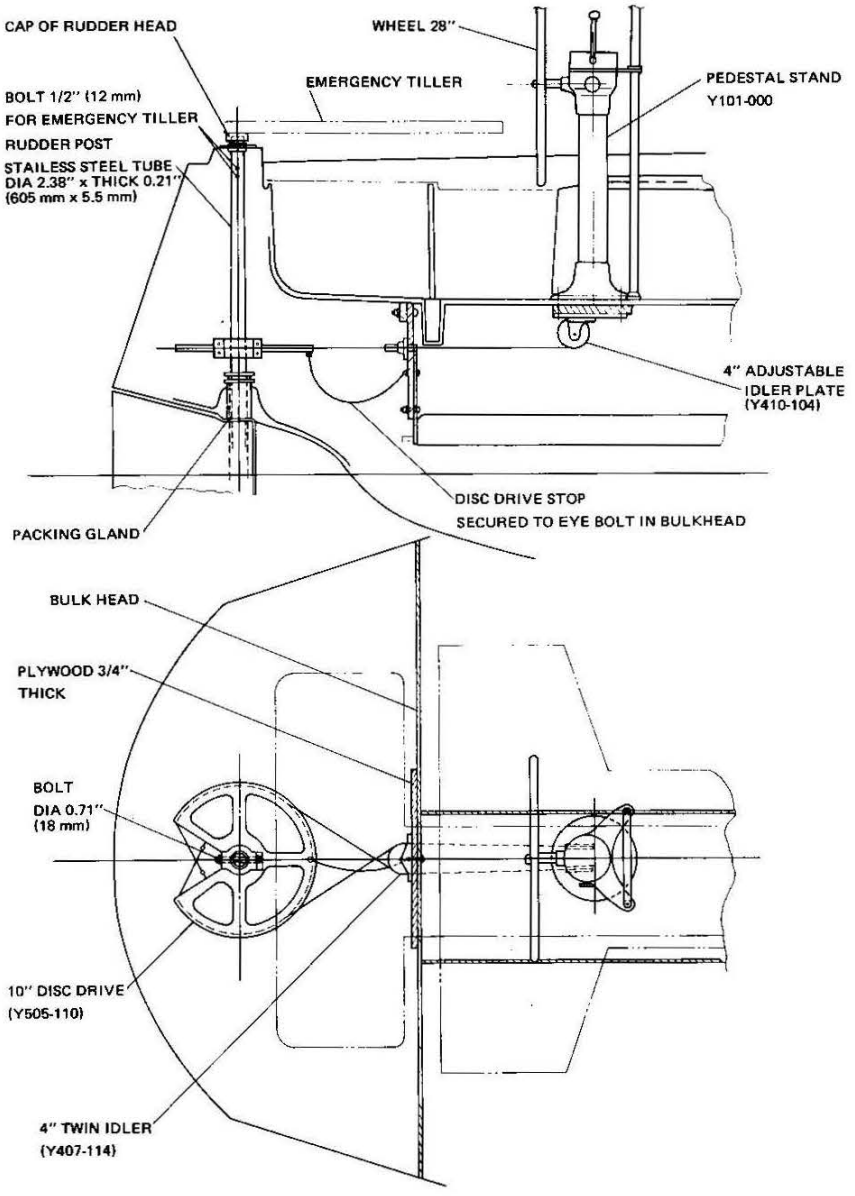


Fig. 33 **PEDESTAL STEERING SYSTEM**

DELIVERY CHECK-LIST

DATE INITIATED _____

MODEL _____ HULL NO. _____
MOTOR _____ SERIAL NO. _____

CUSTOMER _____

SALESMAN _____

A. Check off Upon Arrival of Boat from Factory	MECHANIC CROSS-OUT AS COMPLETED & INITIAL AT BOTTOM	SALESMAN CROSS-OUT & INITIAL AS CHECKED
HULL SIDE CLEAN & FINISH OK		
DECK CLEAN & FINISH OK		
BOTTOM CLEAN & PAINT OK		
ALL BONDS & BEAMS OK		
KEEL SEATED PROPERLY		
BRIGHT WORK CLEAN & FINISH OK		
MAST & BOOM CLEAN & COMPLETE		
RIGGING COMPLETE		
INTERIOR FINISH COMP. & OK		
UPHOLSTERY CLEAN & FIT		
PROPER FABRICS, CARPETS,		
CURTAINS PER CUST. ORDER		
VERIFY ORDER FACT. INSTALLED OPTIONS		
MANUALS & WARRANTY RECEIVED		

B. Check Prior to Launch		
ALL THRU-HULL FITTINGS OK		
THRU-HULL VALVES CLOSED		
KEEL BOLTS TIGHT		
HOSE CLAMPS TIGHT		
RUDDER POST ASSEMBLY OK		
STEERING OK		
STRUT BEARING SEATED PROPERLY		
ZINCS INSTALLED		
CORRECT PROP. SIZE		
PROP NUT AND PIN TIGHT		

C. Check after Launch		
NO LEAKAGE IN THE FOLLOWING		
THRU-HULLS WHEN OPEN		
HOSES		
RUDDER POST		
SHAFT LOGS		
O/B WELL		
CENTERBOARD BOX		
HOSE TEST WINDOW & CABIN LEAKS		
ALL KEEL BOLTS TIGHT		
FUEL & WATER TANKS, NO LEAKS		
WATER PRESSURE SYSTEM OK		
ALL HEADS OPERATIONAL		
MANUAL BILGE PUMP OPERATIONAL		
ELECT. BILGE PUMP OPERATIONAL		
BATTERY SECURE & FULL CHARGE		
12 VOLT ELECT. SYSTEM OK		
110 SHORE POWER SYSTEM OK		
SHOWER SUMP PUMP OPERATIONAL		

D. Rigging & Equipment		
HARDWARE & OPTIONAL EQUIP. INSTALLED		
SECURE		
APPEARANCE		
RIGGING PROPER		
TOGGLES CORRECT LENGTH		
HALYARD LENGTHS OK		
WINCH HANDLES FIT		
WINCH OPERATIONAL		
ALL MAST LIGHTS WORK PRIOR TO STEPPING MAST		
STEP MAST		
INSTALL SEALER AROUND MAST		

E. Check Prior to Starting Engine		
CONTACT ENGINE REP. FOR WARR. INSPECT.		
ENGINE & SHAFT ALIGNMENT OK		
PROP SHAFT SET SCREWS & WIRE OK		
MOTOR MOUNTS & NUTS SECURE		
IGNITION & WIRING CONNECTED		

E. (Con't)		
CLUTCH CONTROL & CABLE OK		
CRANKCASE OIL LEVEL FULL		
REVERSE GEAR OIL LEVEL OK		
ENGINE WATER INTAKE OPEN		
FRESH WATER COOLING SYSTEM FULL		
NO FUMES IN BILGES		
SHAFT LOCK OPERATIONAL		

F. Starting Engine		
SHAFT LOCK OFF		
OPEN FUEL VALVE		
START ENGINE		
OIL PRESSURE OK		
EXHAUST WATER FLOW OK		
NO FUEL LEAKS		
FITTINGS		
CARBURETOR		
FILTERS		
HOSES		
NO ENGINE WATER LEAKS		
NO ENGINE OIL LEAKS		
NO LEAKS IN EXHAUST OR COOLING SYSTEM		
REVERSE GEAR SHIFTS THRU ALL POSITIONS		
ADJUST INSIDE STUFFING BOX & LOCK NUT		
ENGINE INSTRUMENTS REGISTER OR ALTERNATOR OPERATIONAL		

G. Final Check & Sea Trial		
MAST ALIGN. OK		
ROLLER OR SLIDE REEF SYSTEM		
OUTHAUL & DOWNHAUL OK		
WINCH CLEAT & POSITION OK		
TURN BUCKLES & SET PINS		
CHECK & TIGHTEN KEEL BOLTS		
STEER & BALANCES UNDER SAIL OK		
SAILING INSTRUMENTS READ OK		

H. Final Inspection		
CLEAN & POLISH BOAT IN & OUT ALL ITEMS PER PD COMPLETE & INSTALLED		

I HAVE PERSONALLY COMPLETED ALL WORK INDICATED & CHECKED THE UNIT FOR PROPER INSTALLATION & OPERATION FOR SATISFACTORY DELIVERY TO THE CUSTOMER.

MECHANIC _____ DATE _____

I HAVE PERSONALLY INSPECTED THE UNIT AND FIND IT SATISFACTORY CONDITION FOR DELIVERY.

SALESMAN _____ DATE _____

I HAVE PERSONALLY EXPLAINED AND/OR INSTRUCTED THE CUSTOMER THE INFORMATION LISTED BELOW.

SALESMAN _____ DATE _____

MOTOR BREAK-IN PROCEDURE & OPERATION
REQUIRED SERVICE/HOUSE SERVICE POLICY
OWNERS PACKET & WARRANTY INFORMATION
ALL WARRANTY CARDS COMPLETED & SIGNED

I HAVE RECEIVED AND UNDERSTAND THE ABOVE INFORMATION & MATERIAL.

CUSTOMER _____ DATE _____

I HAVE PERSONALLY INSPECTED AND ACCEPT DELIVERY OF THE ABOVE BOAT.

CUSTOMER _____ DATE _____

COMMENTS:

YAMAHA MOTOR CO., LTD.

HEAD OFFICE: 2500 Shingai, Iwata-Shi, Shizuoka-Ken, 438 JAPAN

THE YAMAHA BOAT WARRANTY

Yamaha Motor Co., Ltd., as manufacturer of boats, makes the following warranty to the original retail purchaser:

1. Yamaha warrants each new product manufactured by it to be free from defects in materials and workmanship under normal use and service for a period which shall expire on the sooner of twelve (12) months after the date of delivery to the first retail purchaser thereof, or eighteen (18) months after the date of shipment from Japan.
2. During the warranty period specified above, Yamaha will, through its selling dealer, repair or replace any part manufactured by it (except hereinafter provided) which is proven to Yamaha's satisfaction to be defective by reason of faulty workmanship or material, if such part is promptly returned to the dealer or to Yamaha. All such returns shall be freight prepaid.
3. During the warranty period specified above, Yamaha will, through its selling dealer, reimburse the purchaser for the labor costs involved in the removal of the defective parts and the reinstallation of repaired or replaced parts, provided that the labor cost reimbursement will be based on a reasonable number hours as determined by Yamaha. Labor will be paid at the regional labor rate.
4. This Warranty shall not apply to:
   a) Items specified by Yamaha to be the responsibility of the dealer in launching or otherwise handling a new boat.
   b) Any failure resulting from lack of maintenance or normal wear and tear or negligent operation or maintenance.
   c) Paints, varnishes, gelcoats, chrome-plated and other surface finishes or coatings, because they are affected by climatic and use conditions beyond the control of the manufacturer.
   d) Engines, toilets, stoves, refrigerators, batteries, ignition, lighting devices, blowers, propellers, winches and/or other equipment or trade accessories manufactured by others. Yamaha will, upon request, make available the warranties, if any, extended to it by the manufacturers.
   e) Any other person than the original purchasing dealer or the first use purchaser.
   f) Any boat or part manufactured by Yamaha, which shall have been altered so as to impair the original characteristics.
   g) Masts, in case of improper tuning or handling.
5. The foregoing is made in lieu of all other representations, conditions, warranties, obligations or liabilities on the part of Yamaha. The total liability of Yamaha for breach hereof shall be limited to the provisions herein and in no way shall Yamaha be liable for consequential damages arising from a breach hereof.
6. The dealer is not an agent for Yamaha except for the purpose of administering the above warranty to the extent herein provided, and Yamaha does not authorize the dealer or any other person to assume for Yamaha any liability in connection with such warranty or any liability or expense incurred in the replacement or repair of its products other than those expressly authorized herein.
7. Yamaha reserves the right to improve its products through changes in design or materials without being obligated to incorporate such changes in products of prior manufacture and to make changes at any time in design, materials or parts of boats of any model without obligation or liability to owners of boats of similar or the same model of prior manufacture.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THE FOREGOING WARRANTY.

THE RESPONSIBILITY OF THE DEALER

It is the dealer's obligation to carefully inspect, test, and make all adjustments and corrections required for the satisfactory operation of the boat prior to delivery.

The processing of claims against the transportation company for damages during transportation shall be the dealer's responsibility.

It is the responsibility of the selling dealer during the warranty period to furnish guidance and information on matters pertaining to service and maintenance as well as to handle and process claims under the warranty.

THE RESPONSIBILITY OF THE OWNER

The promptness with which all claims are handled depends upon the manner in which the claim is presented and the cooperation of the owner in supplying the necessary information needed by Yamaha to verify the claim.

a) Have the Warranty Registration Card attached hereto properly filled out and returned within ten (10) days after taking delivery of the boat.
b) The owner's manual as well as instructions furnished with any accessories installed on the boat are placed in an owner's packet aboard the boat. Make sure that this literature is delivered to you. Careful attention to these instructions will add many years to the life of your boat and equipment.
c) All matters of service are handled by the selling dealer. It is, therefore, essential that the owner notify his dealer regarding any problems of warranty service that may arise. Circumstances of distance from the dealer do not in any way modify this responsibility.
d) Give your dealer an opportunity to supply parts needed for all repairs for which a claim is to be made.
e) It is assumed that the owner will use the boat in a reasonable manner. You should be most careful to use judgement when operating boat in heavy weather.
f) All contacts pertaining to your boat should be made with your dealer. He is competent and cooperative.

FAILURE TO REGISTER WARRANTY CARD WITHIN 30 DAYS OF PURCHASE DATE RENDERS THIS WARRANTY NULL AND VOID.

Please sign the below registration and return to Yamaha within thirty (30) days from purchase, together with the delivery check-list to:

Yamaha Motor Co., Ltd., Boat Division Mukojima, Arai-cho, Hamana-gun, Shizuoka-ken, 431-03 Japan